



Effect of preoperative narcotics and benzodiazepines on perioperative and postoperative outcome in cancer-related surgeries

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Abstract

Chronic pain is a burden to the United States that affects approximately 100 million individuals. Opioids, or narcotics, including fentanyl, methadone, and hydrocodone, have been prescribed regularly to help ease these severe pains, which often time accompany cancer diagnoses. More importantly, the need for investigating long term effects of opioid treatment is becoming more necessary as the use of such prescriptions continue to rise. Additionally, many cancer patients are prescribed narcotic treatment with benzodiazepines, and there have been studies showing both risks and benefits of this treatment protocol. The aim of this study was to investigate the effects of preoperative narcotic use and benzodiazepine use on postoperative outcomes after cancer surgery, including hospital stay, readmission rate, and presence of any complications. Data collected from abdominal cancer patients who underwent hyperthermic intraperitoneal chemotherapy (HIPEC) or esophageal cancer patients who underwent a jejunostomy tube procedure was analyzed. It was shown, by means of a chi-squared statistical test, that there was no significant difference in length of stay, rate of readmission, or rate of complications in patients who did and did not use narcotics preoperatively. Similar results were found when testing the association between benzodiazepine use. These data demonstrate the safety of controlling cancer pain preoperatively because there have not been findings of this being detrimental to postoperative outcome.

Methods

- Patients undergoing esophagectomy, gastrectomy, or cytoreductive surgery with hyperthermic intraperitoneal chemotherapy for cancer at the University of Louisville from 2012 to present were reviewed
- Preoperative narcotic and benzodiazepine use were studied in relation to postoperative outcome
- Postoperative outcome measures included length of stay, readmission rate, and presence of complications
- Comparisons were made using chi-squared test of categorical variables and Wilcoxon sign rank test for categorical variables.

Results

Table 1: Summary of data for both surgery types

Table 1: Summary		Surgery Type	
		HIPEC	Esophageal
Gender	Male	8	68
	Female	5	15
Narcotics Use	Yes	5	26
	No	8	57
Common Narcotics	Oxycodone		Oxycodone
	Hydrocodone		Hydrocodone
			Morphine
			Fentanyl
Benzo Use	Yes	3	14
	No	10	69
Common Benzos	Prozac		Ativan
	Lorazepam		Xanax
			Diazepam

Figure 1: Rate of readmission in patients with preoperative narcotic use (below)

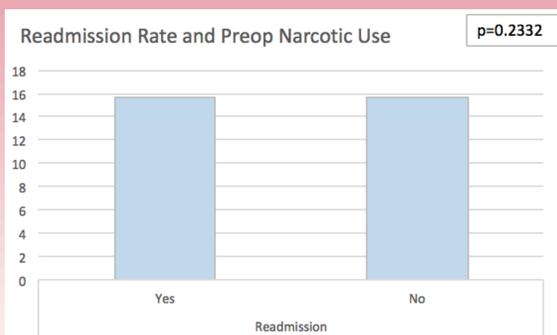


Figure 2: Rate of complication in patients with preoperative narcotic use (below)

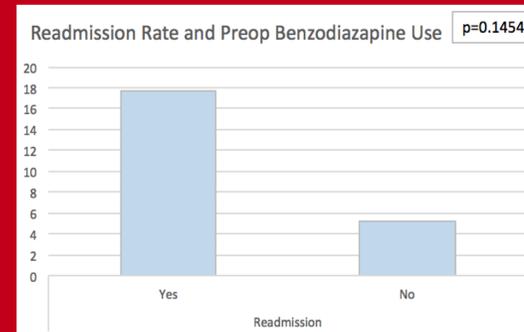
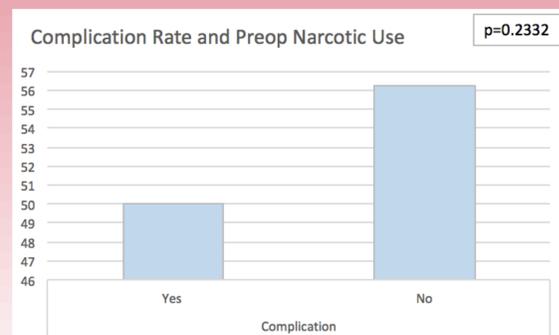


Figure 3: Rate of readmission in patients with preoperative benzodiazepine use

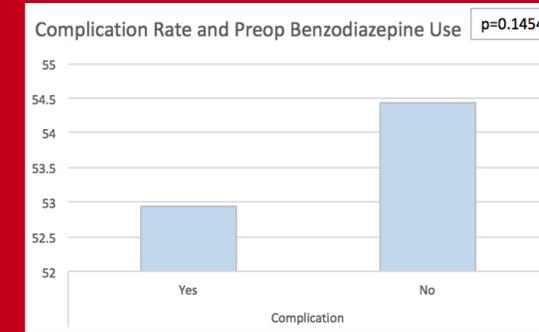


Figure 4: Rate of complication in patients with preoperative benzodiazepine use

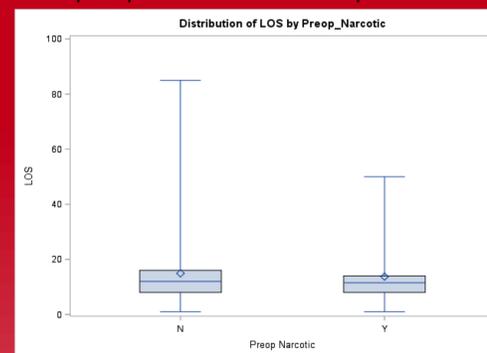


Figure 5: Distribution of length of hospital stay in patients with preoperative narcotic use (Median=11.5 days) and those that did not (Median=11 days) (P=0.65)

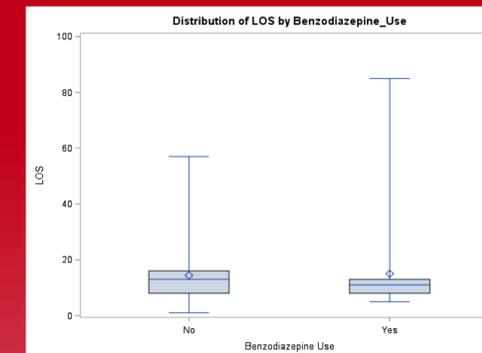


Figure 6: Distribution of length of hospital stay in patients with preoperative benzo use (Median=11 days) and those that did not (Median=13 days) (P=0.20)

Conclusion

- No differences in postoperative outcomes after HIPEC or esophagectomy were between patients that preoperatively used narcotics versus those that did not in length of stay, rate of readmission, or rate of perioperative complications
- No differences in postoperative outcomes after HIPEC or esophagectomy were between patients that preoperatively used benzodiazepines versus those that did not in length of stay, rate of readmission, or rate of perioperative complications
- Preoperative narcotic use does not cause detrimental postoperative outcomes and can thereby be safely used in treating and controlling chronic cancer pain preoperatively
- Preoperative benzodiazepine use can safely treat anxiety in patients suffering from cancer and chronic pain without fear of adverse postoperative outcome due to the drugs.
- Continuing this research is very important due to the incidence of chronic pain in individuals all over the world, and the use of opioids to treat chronic cancer pains, as well as the ongoing opioid crisis which has a concentration in the Kentucky-Ohio area

Future Directions

- Expand analysis to additional cancer operations
- Determine if preoperative narcotic use is a risk factor for long-term opioid dependency

Acknowledgements

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